

U.S. Pat. App. Ser. No. 10/511,974
Response to Office Action Mailed November 15, 2006

PATENT
Attorney Docket # HAM 838004

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1-29 (canceled).

Claim 30 (currently amended). A photocurable composition comprising:

(a) at least one photocurable monomer;

(b) reactive particles comprising a crosslinked elastomeric core and a shell of reactive groups on an outer surface of the crosslinked elastomeric core wherein the crosslinked elastomeric core comprises a crosslinked polysiloxane material and wherein the reactive groups are epoxy groups, ethylenically unsaturated groups or hydroxy groups; and

(c) at least one photoinitiator for polymerization of the photocurable monomer.

Claim 31 (previously presented). The photocurable composition of claim 30 wherein the photocurable monomer comprises a cationically curable monomer and the photoinitiator comprises a cationic photoinitiator.

Claim 32 (previously presented). The photocurable composition of claim 31 wherein the cationically curable monomer comprises a polyepoxide.

Claim 33 (previously presented). The photocurable composition of claim 32 wherein the polyepoxide is an alicyclic polyepoxide having a monomer purity of greater than about 94%.

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Claim 34 (previously presented). The photocurable composition of claim 30 wherein the photocurable monomer comprises a radically curable monomer and the photoinitiator comprises a radical photoinitiator.

Claim 35 (previously presented). The photocurable composition of claim 34 wherein the radically curable monomer comprises a poly(meth)acrylate.

Claim 36 (previously presented). The photocurable composition of claim 35 wherein the poly(meth)acrylate is selected from the group consisting of a poly(meth)acrylate having at least one hydroxy group, a mono(meth)acrylate, a di(meth)acrylate and a poly(meth)acrylate containing at least three (meth)acrylate groups.

Claim 37 (previously presented). The photocurable composition of claim 30 containing a cationically curable monomer, a radically curable monomer, a radical photoinitiator, and a cationic photoinitiator.

Claim 38 (cancelled).

Claim 39 (currently amended). The photocurable composition of claim ~~30~~ 38 wherein the crosslinked polysiloxane material comprises dialkylsiloxane repeating units.

Claim 40 (previously presented). The photocurable composition of claim 39 wherein the dimethylsiloxane repeating units.

Claim 41 (previously presented). The photocurable composition of claim 30 wherein the crosslinked elastomeric core comprises a polybutadiene material.

Claim 42 (previously presented). The photocurable composition of claim 30 wherein the reactive particles have an average particle diameter ranging from 0.01 μm to 50 μm .

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Claim 43 (previously presented). The photocurable composition of claim 30 wherein the reactive particles are capable of reacting substantially completely to form chemical bonds to a polymer matrix that is formed on curing the photocurable composition.

Claim 44 (previously presented). The photocurable composition of claim 30 further comprising a polyether polyol.

Claim 45 (withdrawn). A method for producing a solidified 3-D object comprising:

- (1) forming a first layer comprising a photocurable composition containing at least one photocurable monomer, at least one photoinitiator and reactive particles comprising a crosslinked elastomeric core and a shell of reactive groups on an outer surface of the crosslinked elastomeric core wherein the reactive groups are epoxy groups, ethylenically unsaturated groups or hydroxy groups;
 - (2) exposing the first layer to actinic radiation to form a hardened first layer;
 - (3) forming a second layer comprising the photocurable composition on top of the hardened first layer;
 - (4) exposing the second layer to actinic radiation to form a hardened second layer;
 - and
 - (5) repeating steps (3) – (4) as needed to produce the solidified 3-D object.
- Claim 46 (withdrawn). The method of claim 45 further comprising the step of postcuring the solidified 3-D object.
- Claim 47 (withdrawn). The method of claim 45 wherein the first and second layers are formed by jet deposition or by a surface layer of a bath of the photocurable composition.
- Claim 48 (withdrawn). The method of claim 45 wherein the solidified 3-D object is selected from the group consisting of an adhesive, a photoimageable coating, a coating

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for optical fibers, a 3-D object by printing or jetting, paint, a powder coating, a solder mask or a photoresist mask.

Claim 49 (withdrawn). A solidified 3-D object produced according to the process of claim 45.

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